**General Math Revision Sheet**

**Algebra Section**

Solve the Following

Transpose the Following to let x =

**Univariate Section**

**Bivariate Section**

|  |  |
| --- | --- |
| **x** | **Y** |
| 2 | 22 |
| 5 | 20 |
| 7 | 29 |
| 15 | 55 |
| 16 | 44 |
| 22 | 40 |
| 23 | 63 |
| 24 | 66 |
| 26 | 51 |
| 34 | 70 |

1. Use words that best describes the correlation of the above graph. (eg. weak, moderate, strong, linear, non-linear, positive, negative). (3)
2. Finding the Correlations
   1. Find the Q-Correlation of the above graph.
   2. Describe the strength of the correlation by the value of Q obtained.
   3. Find r (Pearson Correlation Co-efficient).
   4. Find r2 and describe how this relates to the graph.
3. Algebraic Modeling “Best Fit Method”
   1. Using your best judgment draw a “line of best fit” on the graph.
   2. Determine two points on your “line of best fit” and use those points to work out the equation of your best fit line. (The equation is in the form of y = mx+c where m is the gradient and c is the y-intercept).
   3. From your equation determine the value of y when x = 53.
4. Regression Line
   1. Using your CAS find the Linear Regression Line.
   2. Using your CAS find the three median regression gradient.

**General Math Check Point**

**Algebra Section**

Know how to transpose an equation, solve for x and substitute values.

Know how to do simultaneous equation on your calculator.

Know how to construct equations from worded questions.

**Bivariate Section**

Know how to word out Q-correlation, Pearson’s Correlation (r ) and (r2) and what they mean.

Know how to work 3 median regression gradients

Know how to do linear regression on the calculator

**Univariate Section**

Know how to find standard deviation on the calculator.

Remember how to do a box plot (min, lower Quartile, median, upper quartile, max)

Remember how to work out the mean, mode, median etc from frequency table into a boxplot.

Remember Skewness.